THE EFFECT OF *TRYPANOSOMA BRUCEI* INFECTION ON BIOCHEMICAL PARAMETERS IN RATS.

Auma JE[1], Muriuki SP[2], Njagi EN[2].

[1]Kenya Trypanosomiasis Research Institute, P.O. Box 362, Kikuyu, Kenya.
[2]Department of Biochemistry, Kenyatta University, P.O. Box 43844, Nairobi, Kenya

Trypanosomosis is characterized by organic acidemia and aciduria, which indicates disturbances in organic acid metabolism. The disorder occurs as a result of enzymatic deficiencies and/or cofactors involved in the metabolism of amino acids, glucose and lipids. There is growing evidence that nutrition can have a profound effect on the pathophysiological features of animal trypanosomosis.

Rats infected with a virulent *Trypanosoma brucei brucei* isolate were placed on oral vitamin B complex supplementation. The effects of infection on some biochemical parameters were evaluated 4 days post-infection. There was a significant increase ($p < 0.001$) in pyruvate levels in infected rats which was dependent on the parasitaemia, ranging from 1.06mM for $8x\ 10^5$ trypanosomes/ml to 4.58mM for 2×10^7 trypanosomes/ml compared to levels in uninfected rats 0.53 ± 0.15mM (5). The erythrocyte pyruvate kinase activity increased significantly ($p < 0.001$) in infected rats while heart mitochondrial FIATPase decreased significantly ($p < 0.001$) in infected rats. There was no significant difference in both parasitaemia and pyruvate levels between the group infected and supplemented with vitamin B and those infected and not supplemented. The results indicated that the energy levels in the infected rats is low and vitamin B administration may not ameliorate effect due to infection.

Keywords: *Trypanosoma brucei*, Nutrition, biochemical alterations